

Camp Lick Project

Invasive Plants Report

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for:
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Malheur National Forest

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Table of Contents

Introduction	4
Regulatory Framework	4
Resource Elements, Indicators, and Measures	4
Invasive Plants	5
Affected Environment	5
Methodology	5
Existing Condition.....	5
Desired Condition.....	5
Environmental Consequences	6
Methodology	6
Alternative 1 (No Action).....	9
Alternative 2	9
Summary of Environmental Effects	10
Compliance with Forest Plan and Other Relevant Laws, Regulations, Policies and Plans	10
Other Relevant Mandatory Disclosures.....	11
Monitoring.....	11
References	12

List of Tables

Table 1. Resource element, indicator, and measure for assessing effects to invasive plants	4
Table 2. Invasive plant design criteria common to all action alternatives.....	8
Table 3. Summary of resource indicators and measures by alternative	10

List of Figures

Figure 1. Documented non-native species in the Camp Lick planning area	6
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Introduction

This report analyzes potential effects or impacts from the alternatives to invasive plants. Invasive plants are defined as “non-native plants” whose introduction does or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112).

Regulatory Framework

Executive Order (EO) 13112 directs federal agencies to identify actions that may affect the status of invasive species, to prevent the introduction of invasive species, and to not carry out actions that are likely to cause or promote the introduction or spread of invasive species unless all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions (EO 13112, section 2 and 3). Similarly, Forest Service policy directs the agency to determine the risk of introducing, establishing, or spreading invasive plants associated with any proposed action, as an integral component of project planning and analysis, and where necessary, provide alternatives or mitigation measures to reduce or eliminate that risk prior to project approval (Forest Service Manual [FSM] 2900).

This document is consistent with the Malheur National Forest Land and Resource Management Plan (Malheur Forest Plan), which states that the “Prevention of invasive plant introduction, establishment, and spread will be addressed in watershed analysis, roads analysis, fire and fuels management plans, ... vegetation management plans, and other land management assessments,” as amended by Prevention Standard 1 of the 2005 Pacific Northwest Region Invasive Plant Program Preventing and Managing Invasive Plants Record of Decision (hereafter 2005 R6 Preventing and Managing Invasive Plants ROD) and the 2015 Final Record of Decision for the Malheur National Forest Site-Specific Invasive Plants Treatment Project (hereafter 2015 Malheur Invasive Plants Treatment ROD).

This report also fulfills, in part, requirements of the National Environmental Policy Act (NEPA) of 1969 which directs federal agencies to “Ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken” (40 CFR §1500.1(b)).

Resource Elements, Indicators, and Measures

Direct and indirect physical disturbance has the potential to create bare ground and subsequently increase vulnerability of invasive plant introduction and infestation. Presence of invasive plant vectors (e.g., vehicles, heavy equipment, roads, landings, burning, etc.) have the potential to introduce and spread invasive plants into disturbed areas.

Table 1. Resource element, indicator, and measure for assessing effects to invasive plants

Resource element	Resource indicator	Measure	Indicator source
Invasive plants	Potential for introduction and spread of invasive plants	Extent of ground disturbance and vector presence	Executive Order 13112; FSM chapter 2900; USDA Forest Service 1990, Forest-wide standard 188, page IV-45; USDA Forest Service 2005; and USDA Forest Service 2015

Invasive Plants

Affected Environment

Methodology

A pre-field review was conducted to determine where existing infestation sites were known to occur within the planning area. The following data sources were used for the review:

- Oregon Weed Mapper
- NRIS (National Resource Information System) Forest Service database

Surveys for invasive plants were conducted throughout the planning area in 2014.

Existing Condition

The planning area has been surveyed for plant species (Figure 1). This includes surveys for invasive plants and all other botanical species, collection work was accomplished by Forest Service botanists and technicians (see the Camp Lick Rare Plant Report for more information on rare plants and their habitats in the planning area).

To date, there are 59 documented species of non-native plants that cover 2,060 acres of the planning area. Of those, eight are identified as target invasive species for treatment under the 2015 Malheur Invasive Plants Treatment ROD. These include the following species: Dalmatian toadflax (*Linaria dalmatica*), St. Johnswort (*Hypericum perforatum*), houndstongue (*Cynoglossum officinale*), Canada thistle (*Cirsium arvense*), bull thistle (*Cirsium vulgare*), spotted knapweed (*Centaurea stoebe* ssp. *micranthos*), diffuse knapweed (*Centaurea diffusa*), sulphur cinquefoil (*Potentilla recta*), and whitetop (*Cardaria draba*). Annual invasive grasses were documented on 142 acres and include cheatgrass (*Bromus tectorum*), medusahead rye (*Taeniatherum caput-medusae*), and North Africa grass (*Ventenata dubia*). All of the other occurrences are non-native plants that do not clearly meet the federal definition of “invasive” (as defined in EO 13112) in the local ecosystems, and include species such as dandelion (*Taraxacum officinale*), white clover (*Trifolium repens*), salsify (*Tragopogon dubius*), and mullein (*Verbascum thapsus*). Four species are covered by the Oregon state noxious weed list: meadow knapweed (*Centaurea jacea*), field bind weed, (*Convolvulus arvensis*), tansy ragwort (*Senecio jacobaea*), and medusahead rye (*Taeniatherum caput-medusae*). The majority of non-native and invasive plants occur along roads, in rock pits, and at dispersed campsites.

Desired Condition

The 2005 R6 Preventing and managing Invasive Plants ROD added the following desired future condition statement to the Malheur Forest Plan: “... healthy native plant communities remain diverse and resilient, and damaged ecosystems are being restored. High quality habitat is provided for native organisms throughout the [Forest]. Invasive plants do not jeopardize the ability of the [Malheur] National Forest to provide goods and services communities expect. The need for invasive plant treatment is reduced due to the effectiveness and habitual nature of preventative actions, and the success of restoration efforts.”

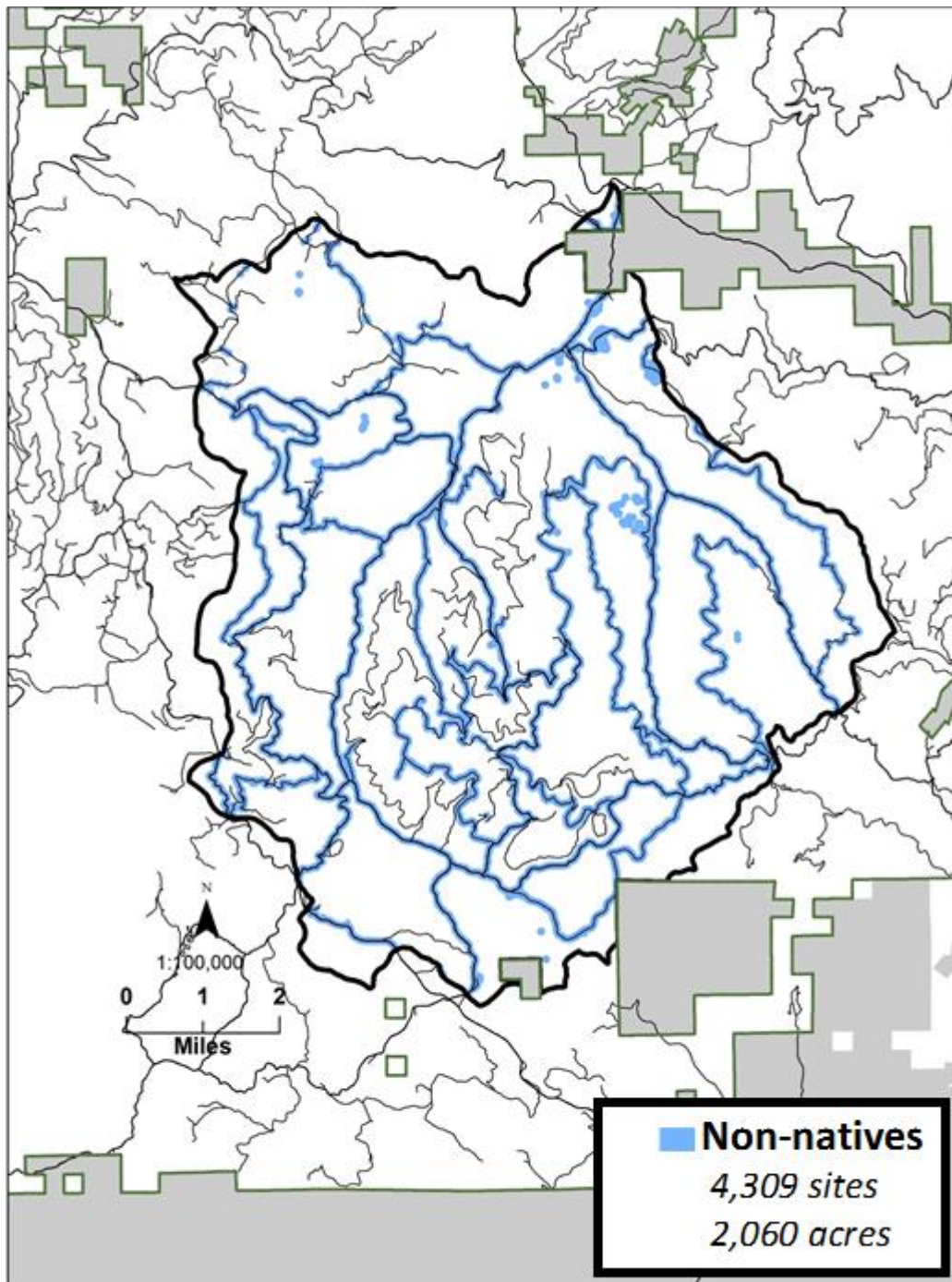


Figure 1. Documented non-native species in the Camp Lick planning area

Environmental Consequences

Methodology

The following assumptions were used to guide the determination of environmental consequences (effects or impacts):

The analysis will only consider plant species identified as “invasive” (as defined in EO 13112) by: (1) the scientific literature as related to the local ecosystems, (2) the 2015 Malheur Invasive Plants Treatment ROD, (3) botanists, ecologists, or invasive plant specialists with local knowledge and experience, (4) the Oregon Department of Agriculture as presented in their state noxious weeds list, and (5) new species to the ecoregion that may have the potential to become invasive (early detection, rapid response [EDRR] scenario).

Proposed actions are considered to have a “Beneficial Effect” on invasive plant management if they will reduce the distribution and size of invasive plant infestations as a direct or indirect effect of the actions. A “No Effect” determination is given if there will be no net increase or decrease in the potential number and size of invasive plant infestations as a direct or indirect result of the action (or consequence of the decision, e.g. no action). A determination of “May Detrimentially Impact” is given for proposed actions that may increase the potential number and size of invasive plant infestations as a direct or indirect result of the action (40 CFR §1508.8).

For this analysis, all invasive plant species are considered to be the same in regard to effects determinations. While some species may respond more aggressively due to: (1) the nature of the disturbances associated with the various proposed actions, and (2) the biological and ecological characteristics of the species, all of the documented invasive plants have the potential to increase in distribution and cover with an increase in ground disturbance and vector presence.

Incomplete and Unavailable Information

While there is a very high level of confidence that most invasive plant occurrences have been discovered, some areas (e.g., roads, campsites, livestock holding facilities) have perpetual disturbance and/or vector presence and thus new invasive plant infestations have the potential to arise on an annual basis. For this reason, these areas will continue to be surveyed and monitored for invasive plants indefinitely.

Spatial and Temporal Context for Effects Analysis

The spatial context for effects analysis includes all of the proposed units and haul routes of alternative 2. The temporal context includes the timeframe when the proposed actions would occur, the past few decades as related to invasive plant management, and 10 years after the operations cease.

Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis

In the past, present, and reasonably foreseeable future, there have been and will continue to be projects and activities within the planning area that may affect invasive plants and their habitats. Projects and activities that create ground disturbance, change vegetative composition, or introduce new vectors may potentially cause increases in invasive plant populations. These actions include past timber harvest, fire suppression efforts, livestock grazing, recreation, road maintenance, firewood cutting, aquatic restoration activities, and ongoing invasive plant treatments under the 2015 Malheur Invasive Plants Treatment ROD. Existing conditions reflect the cumulative effects of past and present activities that have occurred in this area as part of the baseline condition.

*Project Design Criteria and Mitigation Measures***Table 2. Invasive plant design criteria common to all action alternatives**

Criteria Number	Objective	Design criteria	Management areas, units, or activity type	Responsible Person
Invasive-1	Prevent the introduction and spread of invasive plants	Prevention Standard 3: Use weed-free straw and mulch for all projects, conducted or authorized by the Forest Service, on National Forest System Lands. If State certified straw and/or mulch is not available, individual Forests should require sources certified to be weed free using the North American Weed Free Forage Program standards, or a similar certification process.	Units proposed for mulching activities	Botanist, sale administrator, COR
Invasive-2	Prevent the introduction and spread of invasive plants	Prevention Standard 7: Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and rock that is judged to be weed-free by District or Forest weed specialists.	Gravel pits, fill, stand stockpiles, quarry sites, and borrow material sites	Botanist, engineer
Invasive-3	Prevent the introduction and spread of invasive plants	When it is deemed necessary to help reestablish native vegetation, and to prevent non-native invasive species infestations, seeding and/or planting of native plants shall be implemented after ground disturbing activities. Areas that may need treatment include log decks, staging areas, landing zones, temporary roads, slash piles, skid trails, decommissioned roads, and any other disturbed site. A Forest Service botanist, or revegetation specialist, shall be consulted to prescribe appropriate seed mixes, sowing guidelines, and provide assistance with application, protection, and cultivation of seeds and plants.	Revegetation with native plants	Botanist or revegetation specialist
Invasive-4	Prevent the introduction and spread of invasive plants	Conduct road blading, brushing, and ditch cleaning in areas with high concentrations of targeted non-native invasive plants in consultation with invasive plant specialist, and incorporate non-native invasive plant species prevention practices as appropriate.	Road maintenance, road construction, temporary road construction, & road decommissioning activities	Non-native invasive plants specialist, road engineer or crew
Invasive-5	Prevent the introduction and spread of invasive plants	Ensure all equipment and vehicles used on National Forest lands are cleaned and free of targeted non-native invasive plant material and seeds. Notify the Forest Service prior to moving each piece of equipment onto National Forest Lands or when moving between units by identifying the location of the most recent operations. Upon request of the Forest Service, arrangements would be made for inspection of each piece of equipment. Contractor and Forest Service shall agree on locations of cleaning and control of off-site impacts, if any.	All equipment and vehicles used on NFS lands	Contract overseer, non-native invasive plants specialist

Criteria Number	Objective	Design criteria	Management areas, units, or activity type	Responsible Person
Invasive-6	Prevent the introduction and spread of invasive plants	Targeted non-native invasive plants that are known to spread due to burning should be appropriately treated prior to prescribed burning. Direct burning through these areas would be avoided. Avoid ignition and burning in areas at high risk for targeted non-native invasive plant establishment or spread due to fire effects.	Prescribed burning	Fuels specialist, burn boss, botanist
Invasive-7	Prevent the introduction and spread of invasive plants	Minimize soil disturbance to no more than needed to meet vegetation management objectives.	All project activities	Non-native invasive plants specialist

Alternative 1 (No Action)

Direct and Indirect Effects

Under the no action alternative there would be no ground disturbance and no increase in vectors as a result of the decision, and thus there would be no effect to the number and extent of invasive plants occurrences in the planning area. While some existing infestations would naturally increase in size, and new infestations would arise from ongoing vectors and actions (see Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis section above), there would likely be a net decrease in invasive plants due to ongoing treatment as described and implemented under the 2015 Malheur Invasive Plants Treatment ROD.

Cumulative Effects

Because there are no direct or indirect effects from alternative 1 (no action alternative), no cumulative effects would occur.

Alternative 2

Direct and Indirect Effects

Forest-wide invasive plant prevention standards and project design criteria (Table 2), such as cleaning of equipment, use of weed-free mulch, gravel, and pit material, would prevent any direct introduction of invasive plant materials or seeds as a result of the proposed actions. Therefore, there would be no direct impact to invasive plant populations – invasive plants would not be introduced or spread as a direct result of the project.

Proposed actions including silvicultural treatments, riparian and upland watershed restoration treatments, prescribed burning and unplanned ignitions, road activities, interpretive sign installation, and range fence construction would have the potential to create ground disturbance and subsequent bare ground areas that would be susceptible to invasive plant establishment. There would also be an increase in vector presence. This includes temporary road construction, heavy equipment impacts to soil, creation of landings and staging areas, increase in light availability due to thinning, and other similar activities. In some cases, like slash burn pile scars, the proposed actions would create small discrete areas of bare ground where the soil has been completely sterilized. Slash pile burn scars almost always have invasive plant infestations within a year after being created. In some cases, over 95 percent of the burn scars become infested with

invasive plants (usually Canada and bull thistles). While the total area of burn scars is negligible compared to the total project area of approximately 40,000 acres, the infestations can be a new source (vector) for invasive plant introductions. Therefore, the project may create potential deleterious indirect effects from ground disturbance.

Cumulative Effects

There have been and will continue to be projects and activities within the planning area that may cumulatively affect the number and distribution of invasive plant infestations. These actions have the potential to increase or decrease invasive plants on the landscape and most notably include timber harvest, fire suppression efforts, recreational activities, road maintenance, firewood cutting, aquatic restoration activities, livestock grazing, and ongoing invasive plant treatments.

Most of the cumulative effects from the activities described above may have, and could potentially be, detrimental from an invasive plant perspective – they increase the vector presence in the area and can create soil disturbances that are susceptible to invasive plant introduction. However, existing and future infestations would be treated before, during, and after the project is implemented. This, along with the project design criteria, would eliminate or substantially reduce the potential inadvertent spread of existing invasive plants before operations commence, and would eradicate any new infestations during and after implementation. Thus, overall beneficial cumulative effects would occur due to ongoing implementation of the treatments under the 2015 Malheur Invasive Plants Treatment ROD. See the 2005 R6 Preventing and Managing Invasive Plants ROD for details on the planning, environmental effects, and implementation strategy for invasive plant treatments.

Summary of Environmental Effects

Table 3. Summary of resource indicators and measures by alternative

Resource element and resource indicator	Measure	Alternative 1 (no action)	Alternative 2
Invasive Plants – Potential for introduction and spread of invasive plants	Extent of ground disturbance and vector presence	No effect: ground disturbance would not occur as a result of management activities, and new vectors would not be introduced as a direct result of the decision.	No direct effects due to PDCs: invasive plants would not be directly introduced or spread as a result of the actions. Detrimental indirect effects occur by creating bare ground susceptible to invasive plant establishment from ground disturbing activities. Detrimental indirect and cumulative effects may occur from increased vector presence. Some detrimental cumulative effects would be lessened by invasive plant treatments that would occur before, during, and after the proposed actions. Overall beneficial cumulative effects would occur due to ongoing implementation of the treatments under the 2015 Malheur Invasive Plants Treatment ROD.

Compliance with Forest Plan and Other Relevant Laws, Regulations, Policies and Plans

This project complies with Executive Order 13112 which directs federal agencies to identify actions that may affect the status of invasive species, prevent their introduction, and minimize the

risk of the actions. It is also consistent with Forest Service policy (FSM 2900) and the Malheur Forest Plan to determine the risk of introducing, establishing, or spreading invasive plants associated with any proposed action, and to reduce or eliminate that risk prior to project approval.

It also fulfills, in part, requirements of the National Environmental Policy Act of 1969 which directs federal agencies to “Ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.”

Other Relevant Mandatory Disclosures

There are no other relevant mandatory disclosures related to invasive plant species for this project.

Monitoring

Invasive plant occurrences, treatments, and the areas that would be potentially disturbed as a result of the proposed actions would be monitored before, during, and after the implementation of the project. Monitoring protocol would follow the Forest Service’s national invasive plant monitoring requirements and protocols, and the Malheur National Forest’s existing Collaborative Forest Landscape Restoration Project Monitoring Plan for invasive species.

References

- USDA Forest Service. 1990. Malheur National Forest Land and Resource Management Plan. John Day, OR: U.S. Department of Agriculture, Forest Service, Malheur National Forest. Available online: <http://www.fs.usda.gov/main/malheur/landmanagement/planning>
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